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October 18, 1985

TO          :  House Committee on Post Office and Civil Service
               Attention:  Tom DeYulia

FROM        :  Dennis Snook
               Team Leader, Civil Service Retirement Team
               Education and Public Welfare Division

SUBJECT     :  Cost and Benefit Projections for a Retirement Plan for Federal
               Employees Covered by Social Security

You have asked us to project the costs and benefits of a design for a re-
tirement system for Federal workers covered by social security, using the models
created by the Congressional Research Service (CRS) for the purpose of estimat-
ing such data. The design was developed by your committee. Certain details
necessary for accommodating the design to the CRS model were specified by Edwin
Hustead of Hay/Huggins Inc., under terms of their contract to the committee.

The attached tables are our response to your request. The data for these
tables were developed by Michael O'Grady and Tom Gabe, with assistance from
Michael Burke, all of the Civil Service Retirement Team.

We hope that this information is of use to the committee. We are also pre-
paring a complete report of the proposed system's provisions, costs, and bene-
fit distributions for the committee's use during its upcoming deliberations.
In the meantime, if there is anything else we can do to assist you, please do
not hesitate to call us.

Attachments (2)

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## COSTS

The cost projections represent "entry-age normal costs," a cost presentation that compares the career salaries and lifetime benefits of a statistically representative group of entering employees. The approach can be generally understood as the percentage of every paycheck that should be invested, over the total career of each employee in a group of new entrants, to fully pay for all benefits received by that group, including all eligible survivors. Normal cost is formally defined as the present value of future benefits divided by the present value of future compensation. These values are expressed as a percentage of payroll, and provide a consistent measure of relative pension costs over time.

CRS is not providing estimates of long-term tax revenue effects of the tax advantages of any part of the system. Measuring those potential advantages requires the incorporation of easily challenged assumptions; however, in theory the ultimate impact of the tax advantage will be smaller than that of the existing Civil Service Retirement System (CSRS) because the proposed plan costs less and thus defers less in potentially taxable compensation. Any estimates of short-term revenue losses or gains will be done by the Congressional Budget Office.

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TABLE A-1. Comparison of Entry Age Normal Cost Estimates
of Current CSRS to House Committee Plan a/

| | Current CSRS (baseline) | | | House committee plan | | |
|---|---|---|---|---|---|---|
| | Employer share | Employee share (average) | Total | Employer share | Employee share (average) | Total |
| Defined benefit plan............... | 25.0% | 7.0% | 32.0% | 18.2% | 0.9% | 19.1% |
| Social security b/ ... | --- | --- | --- | 5.9 | 5.9 | 11.8 |
| Capital accumulation plan (voluntary) c/ | --- | --- | --- | 1.4 | 2.8 | 4.2 |
| Full cost d/ ......... | 25.0% | 7.0% | 32.0% | 25.5% | 9.6% | 35.1% |

a/ All cost figures are rounded to the nearest tenth of a percent. Administrative costs and benefits to special groups are excluded. Under the current CSRS these costs are estimated to be 0.1 and 0.3 percent of pay, respectively.

b/ Social security cost is the percentage of total Federal payroll taxable for social security (OASDI).

c/ For employees, cost of the capital accumulation plan is shown as the average cost. Average cost is determined by dividing the projected sum of all contributions (up to the specified matching limit of six percent for each employee) by the number of employees, assuming 48 percent rate of full participation. The cost to the Government is the employee cost times the matching rate.

d/ Average full cost includes projected average employee contribution and employer match to the capital accumulation plan.

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TABLE A-2.   Entry Age Normal Cost of House Committee
Plan by Benefit Normal Cost a/
(% of total Federal pay)

Defined Benefit Component:

Annuities to employees:
    Optional retirement............................. 13.3%
    Involuntary retirement.......................... 1.3
    Disability retirement........................... 1.4
    Deferred retirement............................. 0.6

    Subtotal:  Retirement........................... 16.6%

Annuities to survivors of:
    Age retirees.................................... 1.5%
    Disability retirees............................. 0.2

    Active employees................................ 0.6
    To children..................................... --

    Subtotal:  Survivors............................ 2.3%

Refunds............................................. 0.1

Total:  Defined benefits........................... 19.1% a/
Total:  Average capital accumulation............... 4.2  b/
Total:  Social security............................ 11.8 c/
Total:  All benefits............................... 35.1%

Less employee contributions:
    Defined benefit................................. 0.9%
    Capital accumulation............................ 2.8  b/
    Social security................................. 5.9  d/

Total:  Employer cost.............................. 25.5%

a/  Detail may not sum to totals due to rounding.  Administrative costs
and benefits to special groups are excluded.

b/  Based upon net employer contributions matching average contributed by
all workers (including nonparticipants).

c/  Approximately 0.4 percent of payroll of the social security cost is
not distributed to Federal workers but flows to relatively lower-income social
security participants outside the Federal Government.

d/  Social security tax as a percent of total payroll.

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## REPLACEMENT RATES

The replacement rates are the projected percentages of gross salaries re-
ceived in the year before retirement that are replaced by gross benefits in re-
tirement. These benefits and wages have been adjusted to 1985 levels. Workers
are shown retiring in the year 2030 after all increases in the social security
retirement age for full benefits have phased in. By 2027, that age for full
benefits will be 67, and benefits received before that age will be reduced,
with a maximum of 30 percent the reduction applied to benefits received at
age 62, the earliest age of entitlement for old-age retirement under the pro-
gram. Social security benefits shown here are prorated to reflect the propor-
tion of social security benefits earned in Federal employment.

Capital accumulation plan (CAP) amounts are fully indexed so that real
values over time are shown. The tables show replacement rates for individuals
participating fully in the respective CAPS and for those participating not at
all. Maximum annuities imply full participation up to the matching limit
throughout the work career; conversely, the "without CAP" line represents
workers never participating. Experience from the private sector suggests that
most workers would not exhibit either of these polar characteristics but would
vary their participation in response to changing personal or broader economic
circumstances.

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TABLE B-1. Gross Percentage of Preretirement Salary Replaced by
Postretirement Benefits for Workers Retiring under
Current CSRS in the Year 2030

| (Final salaries have been adjusted to 1985 dollars) | $15,000 | $30,000 | $45,000 | $60,000 | $75,000 |
|---|---|---|---|---|---|
| **Gross Replacement Rates** | | | | | |
| 10 years of service | 15% | 15% | 15% | 15% | 15% |
| 20 years of service | 34 | 34 | 34 | 34 | 34 |
| 30 years of service | 53 | 53 | 53 | 53 | 53 |
| 35 years of service | 63 | 63 | 63 | 63 | 63 |
| 40 years of service | 72 | 72 | 72 | 72 | 72 |

CRS-3

TABLE B-2.  Gross Percentage of Preretirement Salary Replaced by
Postretirement Benefits for Workers Retiring
in the Year 2030

| (Final salaries have been adjusted to 1985 dollars) | $15,000 | $30,000 | $45,000 | $60,000 | $75,000 |
|---|---|---|---|---|---|
| **Retirement at Age 55 with 30 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 64% | 58% | 54% | 51% | 49% |
| (without CAP) | (50%) | (44%) | (40%) | (37%) | (36%) |
| Pension | 28 | 28 | 28 | 28 | 28 |
| Pre-62 Supplement | 22 | 16 | 12 | 9 | 8 |
| OASDI | 0 | 0 | 0 | 0 | 0 |
| CAP | 14 | 14 | 14 | 14 | 14 |
| | | | | | |
| Total rate at age 62 | 64% | 59% | 55% | 52% | 50% |
| (without CAP) | (50%) | (45%) | (41%) | (38%) | (36%) |
| Pension | 28 | 28 | 28 | 28 | 28 |
| OASDI | 22 | 17 | 13 | 10 | 8 |
| CAP | 14 | 14 | 14 | 14 | 14 |
| | | | | | |
| Total rate at age 80 | 64% | 59% | 55% | 52% | 50% |
| **Retirement at Age 62 with 10 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 21% | 20% | 19% | 18% | 18% |
| (without CAP) | (15%) | (14%) | (13%) | (12%) | (12%) |
| Pension | 9 | 9 | 9 | 9 | 9 |
| OASDI | 6 | 5 | 4 | 3 | 3 |
| CAP | 6 | 6 | 6 | 6 | 6 |

NOTE:  Accrual rate of one percent of pay per year of service times the highest three years of salary.  Pre-62 supplements are estimates of future social security benefits and may differ from projections of actual social security.  CAPs are indexed to show actual value over time.  Totals may not add due to rounding.

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### TABLE B-3. Gross Percentage of Preretirement Salary Replaced by Postretirement Benefits for Workers Retiring in the Year 2030

| (Final Salaries have been adjusted to 1985 dollars) | $15,000 | $30,000 | $45,000 | $60,000 | $75,000 |
|---|---|---|---|---|---|
| **Retirement at Age 62 with 20 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 44% | 41% | 39% | 37% | 36% |
| (without CAP) | (33%) | (30%) | (27%) | (26%) | (24%) |
| Pension | 19 | 19 | 19 | 19 | 19 |
| OASDI | 14 | 11 | 8 | 7 | 5 |
| CAP | 11 | 11 | 11 | 11 | 11 |
| **Retirement at Age 62 with 30 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 68% | 63% | 59% | 56% | 54% |
| (without CAP) | (51%) | (46%) | (41%) | (38%) | (36%) |
| Pension | 28 | 28 | 28 | 28 | 28 |
| OASDI | 23 | 18 | 13 | 10 | 8 |
| CAP | 17 | 17 | 17 | 17 | 17 |
| **Retirement at Age 62 with 35 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 80% | 74% | 69% | 65% | 63% |
| (without CAP) | (60%) | (54%) | (49%) | (45%) | (43%) |
| Pension | 33 | 33 | 33 | 33 | 33 |
| OASDI | 27 | 21 | 16 | 12 | 10 |
| CAP | 20 | 20 | 20 | 20 | 20 |

NOTE: Accrual rate of one percent of pay per year of service times the highest three years of salary. i-2-62 supplements are estimates of future social security benefits and may differ from projections of actual social security. CAPs are indexed to show actual value over time. Totals may not add due to rounding.

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TABLE B-4. Gross Percentage of Preretirement Salary Replaced by
Postretirement Benefits for Workers Retiring
in the Year 2030

| (Final salaries have been adjusted to 1985 dollars) | $15,000 | $30,000 | $45,000 | $60,000 | $75,000 |
|---|---|---|---|---|---|
| **Retirement at Age 62 with 40 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 88% | 82% | 77% | 73% | 70% |
| (without CAP) | (66%) | (59%) | (54%) | (50%) | (48%) |
| Pension | 38 | 38 | 38 | 38 | 38 |
| OASDI | 28 | 21 | 16 | 12 | 10 |
| CAP | 23 | 23 | 23 | 23 | 23 |
| **Retirement at Age 67 with 30 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 80% | 73% | 68% | 63% | 61% |
| (without CAP) | (59%) | (52%) | (46%) | (42%) | (39%) |
| Pension | 28 | 28 | 28 | 28 | 28 |
| OASDI | 31 | 24 | 18 | 14 | 11 |
| CAP | 21 | 21 | 21 | 21 | 21 |
| **Retirement at Age 67 with 40 Years of Service** | | | | | |
| At retirement: | | | | | |
| Total rate | 104% | 94% | 87% | 82% | 79% |
| (without CAP) | (76%) | (67%) | (60%) | (55%) | (51%) |
| Pension | 38 | 38 | 38 | 38 | 38 |
| OASDI | 38 | 29 | 22 | 17 | 13 |
| CAP | 28 | 28 | 28 | 28 | 28 |

NOTE: Accrual rate of one percent of pay per year of service times the
highest three years of salary. Pre-62 supplements are estimates of future
social security benefits and may differ from projections of actual social secu-
rity. CAPS are indexed to show actual value over time. Totals may not add
due to rounding.